

IN THE CLAIMS

1. (currently amended) A MRI gradient coil set, said coil set comprising:  
a uniplanar Z-gradient coil;  
a biplanar X-gradient coil; and  
a biplanar Y-gradient coil, said uniplanar Z-gradient coil positioned substantially perpendicular to said biplanar X-gradient and biplanar Y-gradient coils, said coil set providing an open Z-axis face.
2. (original) A coil set according to claim 1, wherein at least one of said coils is a shielded coil.
3. (original) A coil set according to claim 1, wherein said biplanar coils include shoulder reliefs.
4. (original) A coil set according to claim 1, wherein at least one of said coils is a phased array coil.
5. (original) A coil set according to claim 1, further comprising a radio frequency coil integrated therewith.
6. (original) A coil set according to claim 1, wherein said coils are conjoined.
7. (new) A coil set according to claim 1, wherein said gradient coils are configured to image a human head.
8. (new) A coil set according to claim 1, wherein said biplanar X-gradient and Y-gradient coils are configured to be positioned adjacent sides of a human head when imaging the human head.
9. (new) A coil set according to claim 8, wherein the open Z-axis face is configured to allow non-disrupted view by a human subject when imaging the human subject.
10. (new) A coil set according to claim 1, wherein the gradient coils comprise an insertable configuration configured to be integrated with one of a volumetric, surface phased array and singular coil arrangement.
11. (new) A coil set according to claim 1, wherein at least one of said gradient coils is configured to be integrated with one of a knee, upper thigh and foot RF coil.
12. (new) A gradient coil set for magnetic resonance imaging, said gradient coil set comprising:

a Z-gradient coil positioned substantially in parallel with main magnet poles of a magnetic resonance imaging system;

an X-gradient coil positioned substantially perpendicular to the main magnet poles; and

a Y-gradient coil configured in a biplanar arrangement with said X-gradient coil and positioned substantially perpendicular to the main magnet poles, said gradient coils having a Z-axis opening.

13. (new) A coil set according to claim 12, wherein said X-gradient and Y-gradient coils comprise transverse biplanar coils.

14. (new) A coil set according to claim 12, wherein said X-gradient and Y-gradient coils each comprise a parabolic cut-off.

15. (new) A coil set according to claim 15, wherein said parabolic cut-offs are configured in a symmetric arrangement.

16. (new) A coil set according to claim 12, wherein the Z-axis opening is configured to allow non-disrupted view by a human subject imaged by the magnetic resonance imaging system.

17. (new) A coil set according to claim 12, further comprising at least one set of additional gradient coils in combination with at least one of said X-gradient, Y-gradient and Z-gradient coils, together forming an array.

18. (new) A coil set according to claim 12, wherein said gradient coils are configured to operate in connection with the magnetic resonance imaging system to image at least one of a head, knee, upper thigh and foot.

19. (new) A method for magnetic resonance imaging, said method comprising: configuring a Z-gradient coil substantially perpendicular to a pair of biplanar X-gradient and Y-gradient coils, said coils arranged having a Z-axis opening.

20. (new) A method according to claim 19, further comprising providing a parabolic cut-off in each of the X-gradient and Y-gradient coils.